



## PhD Admission Autumn 2025



Department of Chemical Engineering IIT Indore, India

**Announces admission to PhD Program for AY 2025-26**

**Application Start Date: March 19, 2025**

**Application closes: May 5, 2025**

The Department of Chemical Engineering at IIT Indore invites applications from motivated and research-oriented students for admission to its Ph.D. Program for Autumn semester 2025-2026. The list of faculty members and their research areas are listed below.

<i>S.No</i>	<i>Name</i>	<i>Research area and Google Scholar link</i>
1	Dr. Abhilasha Maheshwari	<ul style="list-style-type: none"><li>➤ Process Systems Engineering</li><li>➤ Water Distribution Networks</li><li>➤ Smart Water Infrastructure</li><li>➤ Water chemistry</li><li>➤ Water-energy-food Nexus</li><li>➤ Net-zero carbon pathways &amp; Sustainability</li><li>➤ AI and ML for Environmental and Chemical Systems</li><li>➤ Digital twins for Operational Excellence</li><li>➤ Hybrid modeling &amp; Large-scale optimization</li><li>➤ <a href="https://scholar.google.com/citations?user=deYBcfgA AAAJ&amp;hl=en">https://scholar.google.com/citations?user=deYBcfgA AAAJ&amp;hl=en</a></li></ul>
2	Dr. Gaurav Chauhan	<ul style="list-style-type: none"><li>➤ Coupling of biochemical reactions to phase equilibria of proteins in the intracellular environment</li></ul>

		<ul style="list-style-type: none"> <li>➤ Computational enzyme engineering for biofuel production</li> <li>➤ Understanding the role of phase separation of associative polymers (proteins and RNA) on biochemical reactions using theory and computer simulations.</li> <li>➤ <a href="https://scholar.google.com/citations?user=MdAFTW_oAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=MdAFTW_oAAAAJ&amp;hl=en</a></li> </ul>
3	Dr. Rajan Singh	<ul style="list-style-type: none"> <li>➤ heterogeneous catalyst</li> <li>➤ Reaction kinetics and reactor design</li> <li>➤ CO2 capture and conversion</li> <li>➤ Hydrogen production</li> <li>➤ thermochemical water splitting</li> <li>➤ <a href="https://scholar.google.com/citations?user=JFf0XsYAAAJ&amp;hl=en">https://scholar.google.com/citations?user=JFf0XsYAAAJ&amp;hl=en</a></li> </ul>
4	Dr. R. Kailasham	<ul style="list-style-type: none"> <li>➤ Computational Soft Matter</li> <li>➤ Polymer physics</li> <li>➤ rheology</li> <li>➤ active matter</li> <li>➤ nonequilibrium statistical mechanics</li> <li>➤ Brownian dynamics simulations</li> <li>➤ stochastic thermodynamics</li> <li>➤ colloidal hydrodynamics</li> <li>➤ <a href="https://scholar.google.com/citations?user=PPv41igAAAJ&amp;hl=en">https://scholar.google.com/citations?user=PPv41igAAAJ&amp;hl=en</a></li> </ul>
5	Dr. Preetika Karnal	<ul style="list-style-type: none"> <li>➤ Soft materials</li> <li>➤ Interfacial mechanics</li> <li>➤ Adhesion</li> <li>➤ Instabilities</li> <li>➤ <a href="https://scholar.google.com/citations?user=csVZYykAAAJ&amp;hl=en&amp;oi=ao">https://scholar.google.com/citations?user=csVZYykAAAJ&amp;hl=en&amp;oi=ao</a></li> </ul>

### Areas of research in the department

- Process optimization & Process control
- CO<sub>2</sub> conversion to fuels and Hydrogen production
- Computational soft matter
- Smart water Infrastructure
- Digital Twins for operational excellence
- Polymer physics and rheology
- Computational enzyme engineering
- Biochemical reactions coupled to phase separation
- Hydrodynamic stability
- Soft matter engineering

### Application Procedure: (for Indian Students)

- Candidates must apply ONLINE through our website (<https://academic.iiti.ac.in:8443/nregistration.jsp>). This will generate a unique application number for each applicant.
- Application Fee: Kindly refer to the main Ph.D. Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php>
- In case a candidate wishes to apply in more than one department, then a separate application must be filled for each department.
- **No TA/DA will be provided to the applicants if called for written test /interview.**
- **The shortlisted candidates should arrange to send a minimum of two letters of recommendation directly to [dpgcconvenor\\_chemeng@iiti.ac.in](mailto:dpgcconvenor_chemeng@iiti.ac.in) or provide in a sealed envelope before appearing for the interview.**
- Mere fulfillment of the essential qualifications does not guarantee admission to the Ph.D. program in the Department of Chemical Engineering. The selection will be based on the overall performance, which will include written exam, interview, academic background, suitability for research in the chosen field/area, research aptitude, communication skills, etc.
- **Shortlisted candidates will have to appear in person for a written exam and personal interview on the IIT Indore campus (Tentative Date: May 19, 2025).**

**For International Students:** Kindly refer to the main Ph.D. Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php>.

Detailed faculty profile can be seen from the department website (<https://chemical.iiti.ac.in/>)

**Categories of Admission:** Kindly refer to the main Ph.D. Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php>.

**Eligibility:** Kindly refer to the main Ph.D. Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php>.

### **Minimum Educational Qualifications (MEQs):**

- Masters' degree (M.Tech./M.E./M.S.(Res.)) in Chemical Engineering, Material Science and Engineering, Mechanical Engineering, Chemical Technology (Polymer, Petroleum, Petrochemical etc.), Engineering Sciences, Energy Science and Engineering, civil engineering, environmental engineering, ceramic Engineering, Metallurgical Engineering, Mineral Processing and Engineering, Biotechnology, Biomedical Engineering, Rubber/ Oil/ Paint/Paper and Pulp/ Textile/ Food Technology, (with first division as defined by the awarding Institute/ University) **and GATE qualification.**
  
- Four-year Bachelors' degree in Chemical Engineering or allied disciplines such as Material Science and Engineering, Mechanical Engineering, Chemical Technology (Polymer, Petroleum, Petrochemical etc.), Chemical Science and Technology, Industrial Chemistry, Engineering Sciences, Energy Science and Engineering, Ceramic Engineering, Metallurgical Engineering, Mineral Processing and Engineering, Biotechnology, Biomedical Engineering, Rubber/ Oil/ Paint/Paper and Pulp/ Textile/ Food Technology (with first division as defined by the awarding Institute/ University) **and a valid GATE qualification.**

### **Address for Correspondence:**

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